REMARKS

Claims 1-3 and 6 are currently pending. Claims 1, 2 and 3 are amended.

Drawings

With regard to the marked up Exhibit Figures 1, 3 and 4 attached to the previous Amendment filed October 10, 2008, they are merely Exhibits for the previous Amendment and not official "replacement sheets" for any amended drawings. As reflected on page 8 of the October 10, 2008 Amendment, no amendments to Figures 1, 3 and 4 were previously submitted.

Claim Rejections - 35 U.S.C. §112, First Paragraph

Claims 1, 2, 3 and 6 rejected under 35 U.S.C. 112, first paragraph, as allegedly lacking written description support for the smaller gear (as opposed to a rotational center of the smaller gear) being arranged within an angular range of ±35 degrees from the rotational center of the larger gear. However, written description support may be found, for example, in the middle paragraph on page 16 which describes the small gear (not limited to its rotational center) being provided within ±35 degrees. Nevertheless, the claims were amended to clarify this feature.

Examiner's Interview on March 11, 2009 and the Prior Art Rejections

The Applicant appreciates the courtesies extended for the Examiner's Interview on March 11, 2009. In particular, the Applicant appreciates the opportunity to clarify with the Examiner the present claimed definition of the "reference plane" and how that definition distinguishes over

the Tsai reference (USP 5,245,263). The Applicant also appreciates the Examiner's reconsideration of the claims in view of the clarified understanding of the "reference plane" definition, despite the Office Action being made Final. The clarification discussed during the Examiner's Interview is reiterated below, as requested by the Examiner.

For claims 1 and 2, the "reference plane is defined as a plane parallel to a lower arm rotational plane, orthogonal to the front/rear shaft, and including a rotational axis of the large gear." Accordingly, there are three components to the definition of the reference plane. The reference plane (1) is parallel to the lower arm rotational plane, (2) is orthogonal to the front/rear shaft, and (3) includes the rotational axis of the large gear. Regarding (1), the reference plane is parallel to the "lower arm rotational plane" which is the plane in which the lower arm moves as it rotates about the front/rear shaft. Regarding (2), the reference plane is orthogonal to the front/rear shaft about which the lower arm rotates. Regarding (3), the reference plane "includes" the entire rotational axis of the large gear (and not merely "intersect" it at one point thereof). Moreover, the "large gear" is specifically defined in each of claims 1 and 2. For claim 1, the large gear is "fixed to the robot base." For claim 2, the large gear meshes with a small gear that is "fixed to the robot base." These three components of the definition of the "reference plane" fix its location, as shown in Exhibit 1 (marked-up Fig. 3) attached to the October 10, 2008 Amendment. Note that the reference plane shown in Exhibit 1 is not the plane of the paper, but rather, is perpendicular to the paper and extends along the line going through the centers of both the small gear 103 and large gear 100.

For claim 3, the "reference plane is defined as a plane parallel to a rotating barrel portion rotational plane, orthogonal to the rotating shaft, and including a rotational axis of the large gear." Accordingly, there are three components to the definition of the reference plane. The reference plane (1) is parallel to the rotating barrel portion rotational plane, (2) is orthogonal to the rotating shaft, and (3) includes the rotational axis of the large gear. Regarding (1), the reference plane is parallel to the "rotating barrel portion rotation plane" which is the plane in which the rotating barrel portion moves as it rotates about the rotating shaft. Regarding (2), the reference plane is orthogonal to the rotating shaft about which the rotating barrel portion rotates. Regarding (3), the reference plane "includes" the entire rotational axis of the large gear (and not merely "intersect" it at one point thereof). Moreover, the "large gear" is specifically defined in claim 3 to be "fixed to the lower arm." These three components of the definition of the "reference plane" fix its location, as shown in Exhibit 2 (marked-up Fig. 1) attached to the October 10, 2008 Amendment. Note that the reference plane shown in Exhibit 2 is not the plane of the paper, but rather, is perpendicular to the paper and extends along the line going through the centers of both the small gear 103a and large gear 100a.

With the above clarification of the claimed reference plane, it is clear that the present claimed invention distinguishes over Tsai. The reference plane alleged in the Office Action to exist in Tsai does not meet the definition thereof in the present claimed invention.

With regard to claim 1, the Office Action referred to a large gear (to the right of 5), a small gear (at 2), and a lower arm (2nd link) of Tsai. However, the small gear (at 2) is not within ±35 degrees from a reference plane as defined in claim 1. The claimed reference plane cannot be

accommodated within the designated corresponding structures of Tsai. A reference plane being parallel to the rotational plane of the lower arm (2nd link) and orthogonal to the front/rear shaft does ***not*** "include" (but might merely "intersect") the rotational axis of the large gear (to the right of 5). In fact, such a reference plane meeting the first two conditions mentioned above would be orthogonal to the rotational axis of the large gear (to the right of 5). The small gear (at 2) does not exist within the claimed range within ±35 degrees from a reference plane as defined in claim 1.

With regard to claim 2, the Office Action referred a rotating barrel portion (1st arm link), a small gear (to the right of 8), and a large gear (above 1) fixed in the rotating barrel portion (extending inside the 1st arm link) of Tsai. Although the Office Action referred to "a lower arm one end of which is axially supported by the rotating barrel portion," the Office Action did not identify any specific corresponding structure of Tsai. It is assumed that because the Office Action considered the robot base to be Base Link (O) of Tsai, and the rotating barrel portion to be the 1st arm link, then the alleged lower arm might be the remaining 2nd arm link. That being the case, Tsai does not disclose or fairly suggest all the features of claim 2, for at least the same reasons set forth above regarding claim 1, *i.e.*, the claimed reference plane cannot be accommodated from the alleged corresponding structures of Tsai and the small gear (to the right of 8) does not exist within the claimed range within ±35 degrees from a reference plane as defined in claim 2.

As for claim 3, the Office Action now appears to reference components on the cover page of the Tsai reference (same as Fig. 3 thereof), instead of the components of Fig. 5 as was done in

the first Office Action dated June 17, 2008. Again, the alleged corresponding structures, as best understood, do not meet the claimed definition of the reference plane as explained above. Also, it is unclear in the Office Action as to what in Tsai is the corresponding "rotating barrel portion." Moreover, the allegedly corresponding small gear (at 5) is ***not*** "axially supported in the rotating barrel portion." On the contrary, the gear at 5 appears to be supported within the 1st link.

Lastly, the paragraph at the top of page 6 of the Office Action states that "the claim also does not define where the starting point for measuring the angle is and therefore as long as the gear is in the plane the angle can be measured from any point that would include the gear." This is incorrect. The claims recite "the small gear is arranged ***within*** an angular range ***from*** the rotational center of the large gear, said angular range being ±35 degrees ***from*** a reference plane" and the reference plane is also specifically defined in each claim. The combination of these limitations results in a defined measurement for the location of the small gear with the claimed angular range.

For at least these reasons, the present claimed invention patentably distinguishes over the prior art. In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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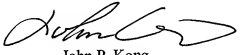

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